

Year 7 Geography

Knowledge organiser booklet



Instructions

- You will need to keep this booklet safe as you will need it each term to revise for your assessment.
- Your teacher will tell you which sections you need to revise for each test. Make sure you prepare for the correct ones!

Topic 1: What makes a place amazing?

What is an amazing place? A place causing wonder, surprise and astonishment.



Skywalk

The Skywalk is in the Grand Canyon. This is in the state of Arizona in the USA.

- It is 4000ft in the air with glass floors!
- It is strong enough to support 71 fully loaded 747 aeroplanes.

Positives:

- ✓ Makes a once impossible to see place possible to see.
- ✓ Provides jobs.

Negatives:

- × Increase in pollution
- × Spoils natural landscape



Erosion is the wearing away of the land. There are 4 types of erosion:



1. Attrition: where rocks and boulders rub against each other and wear away.



2. Abrasion: where sand, pebbles and rocks are flung against cliffs (think sandpaper).



3. Solution: where sea water dissolves soluble material in rocks.



4. Hydraulic action: when waves break against rocks and cliffs; pockets of air 'explode' within cracks, weakening them.



Totem Pole

The Totem Pole is found in the Tasman National Park, Tasmania, Australia.

- It is 65 metres high and 4 metres wide at the base.
- It is very popular with climbers.
- It is a sea stack formed by erosion.

Japan

Japan is in the continent of Asia.



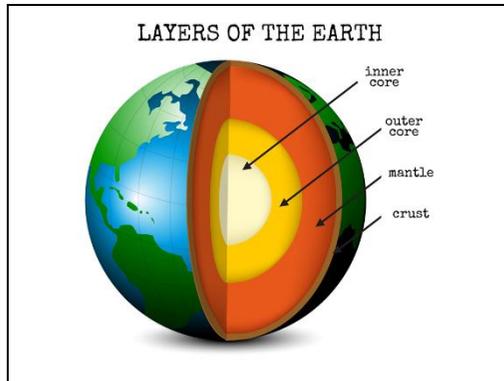
The Sapporo Snow Festival is a festival held annually in Sapporo, over seven days in February. It includes:

- Light shows
- Ice sculptures
- Theatre performances

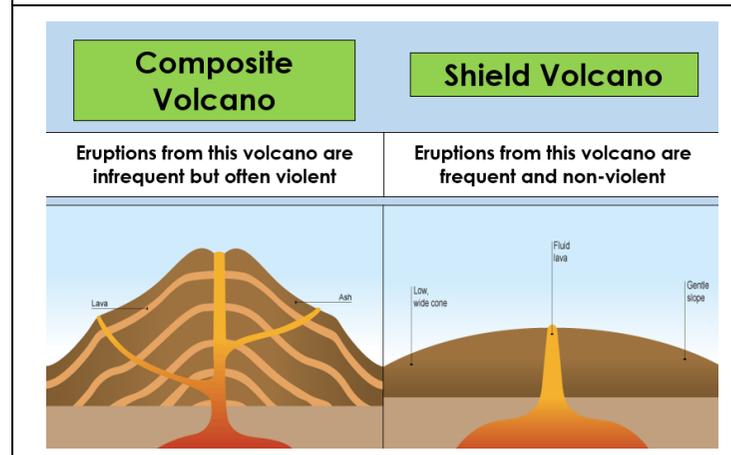
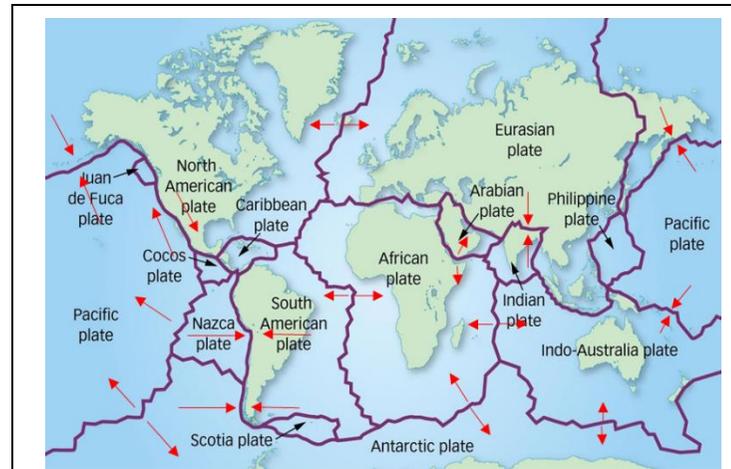


The Abandoned Fukushima. The Fukushima nuclear disaster was caused by a tsunami caused by an earthquake on 11 March 2011. Today a 30km exclusion zone remains where very few live due to the risks linked to the radiation.

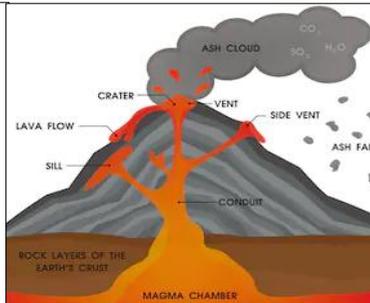
Topic 2: How are lives shaped by volcanoes?



- Crust**
- 2 types = continental and oceanic
 - Temperature can range between 35 and 70°C.
- Mantle**
- 4000°C
 - 2900km thick
 - Molten rock
 - Viscous (a bit like the texture of jam)
- Outer core**
- Liquid mixture of iron and nickel
 - 5000°C
 - 2220km thick.
- Core**
- A solid ball of iron and nickel
 - 5500°C (or hotter!) and 1260km thick



- What happens in a volcanic eruption?**
1. **Cracks** or **weaknesses** in the earth's crust allows **magma** to **rise** from the mantle.
 2. **Pressure** builds up, which is released **suddenly** allowing the magma to **explode**. This is a volcanic **eruption**.
 3. When the lava **cools**, it forms **igneous rock** such as basalt.
 4. Subsequent eruptions create **new islands** and **land masses**.



Key terms	
Plate boundary	The point at which two plates meet.
Constructive boundary	Where two plates move apart, and magma rises through the gap.
Destructive boundary	Where an oceanic plate and a continental plate move towards each other. The oceanic plate sinks.
Conservative boundary	Where two plates move past each other, this could be in opposite directions or the same direction.
Subduction	Where one plate moves under another and is forced to sink, due to gravity, into the mantle.
Geothermal energy	Heat that comes from the sub-surface of the earth.

- Reasons to live near a volcano:**
- Soils are more fertile which help to grow more crops.
 - Geothermal power can be generated using the heat from underground.
 - Metals (such as iron or copper) can be dug out of the ground.
 - Tourism – many can earn money from being tour guides etc.

Topic 3: Why is Antarctica important if no one lives there?

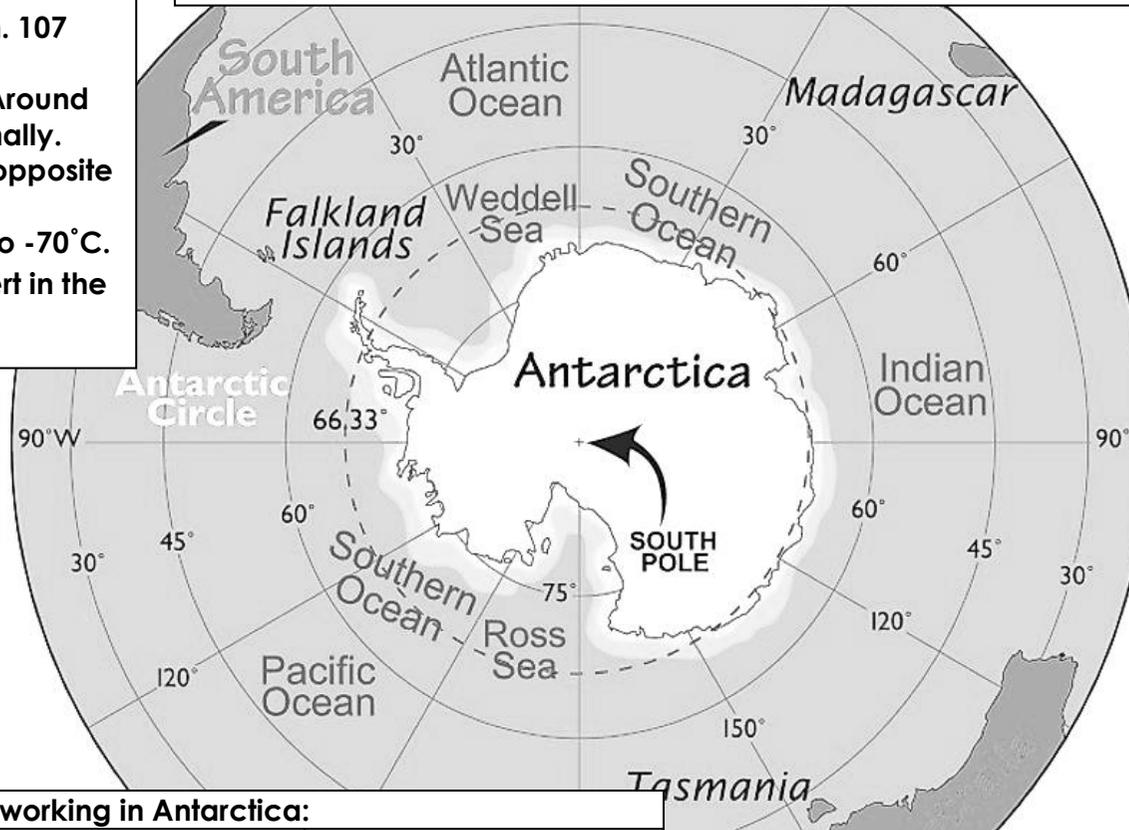
Key facts

- **Antarctica is the most Southern continent in the world.**
- **Area = 5th = 14,000,000 sq km. 107 times the size of England!**
- **Population = 7th = 0 people. Around 4000 people live there seasonally.**
- **Antarctica's seasons are the opposite to ours.**
- **Temperatures can get down to -70°C.**
- **Antarctica is the biggest desert in the world.**

Key terms:

Calving: When icebergs break off an ice shelf.

Antarctic Treaty: An agreement between different countries to protect Antarctica.

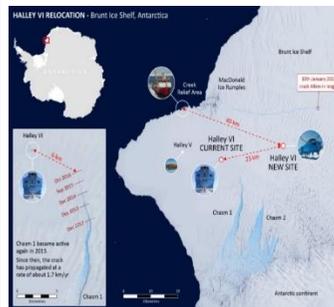


Tourism in Antarctica – the problems:

- × Disruption to fragile ecosystems.
- × Oil spills from ships are becoming more common.
- × More tourists resulting in more noise pollution.

Living and working in Antarctica:

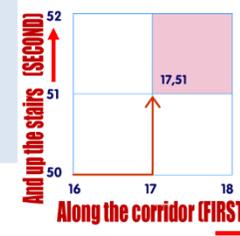
- The British Antarctic Survey has been responsible for most of Britain's scientific research for over 60 years.
- Halley is the research facility.
- Scientists are worried about melting ice:
 - Sea levels will rise
 - Polar animals may lose their homes and die out
 - Low-lying areas may flood
 - Ocean currents could get affected



4 Figure Grid References:

Remember...

'Along the corridor and up the stairs'.



Glaciers

- A glacier is a **body of ice** that **moves** very slowly downhill due to gravity.
- They are found far north and far south **latitudes** e.g. Antarctica and at high **altitudes** in mountain ranges e.g. Mount Everest, Himalayas

Layers of snow build-up over time.

The **weight** of the snow on top pushes down on the snow underneath.

This **pushes the air out** of the snow. The snowflakes get pushed closer together.

Over time so much air is removed that it starts to become ice. This is called

firn ice.

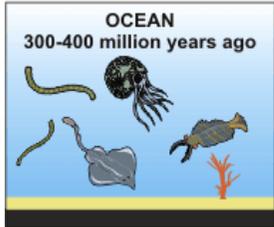
After even longer, so much of the air is removed that it becomes

glacier ice.

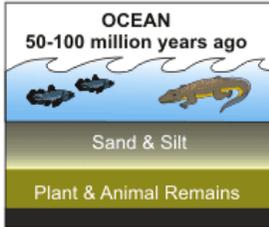
Topic 4: How do we power the world?

Fossil Fuels:

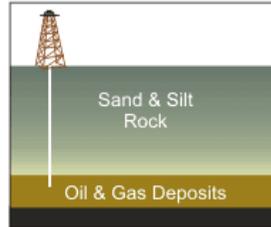
PETROLEUM & NATURAL GAS FORMATION



Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of silt and sand.

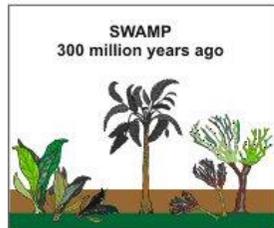


Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned them into oil and gas.

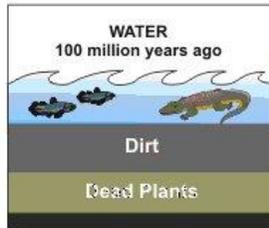


Today, we drill down through layers of sand, silt, and rock to reach the rock formations that contain oil and gas deposits.

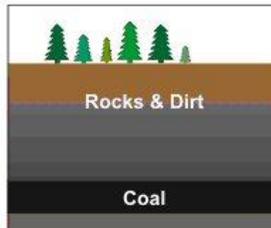
HOW COAL WAS FORMED



Before the dinosaurs, many giant plants died in swamps.



Over millions of years, the plants were buried under water and dirt.



Heat and pressure turned the dead plants into coal.

- **Fossil fuels** were formed from the remains of dead organisms over millions of years. They are **non-renewable, finite** resources.
- Coal, Oil and Gas are 3 examples.

Advantages of banning fossil fuels:

- ✓ Less oil spills damaging ecosystems and the environment.
- ✓ Less traffic on the roads carrying coal etc.
- ✓ Fewer greenhouse gases released into the atmosphere.
- ✓ Healthier people due to less air pollution.

Disadvantages of banning fossil fuels:

- × We will lose our already existing infrastructure that is used to extract fossil fuels.
- × Wasted technology and equipment that we use to extract fossil fuels.
- × Thousands of people will lose their jobs.
- × Money and expertise needed to find alternative sources of energy.

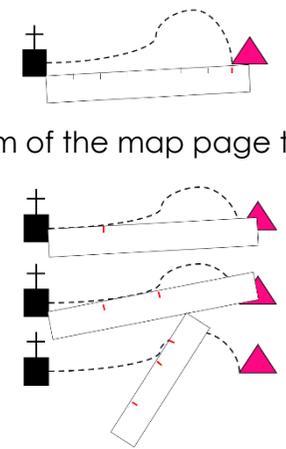
Wind Power:

- ✓ Clean and renewable
- ✓ Cheap to run once set up
- ✓ No pollution
- ✓ Wind energy does not contribute to global warming
- × Relies on windy weather conditions
- × Can be said to be noisy
- × Some say they spoil the look of the natural landscape



Map skills – measuring distance:

1. For straight line distance, get a ruler or piece of paper and simply measure the distance between the two points.
2. Then compare it to the scale at the bottom of the map page to find out how far it is in real life.
3. To measure the actual distance, use the roads and paths on the map.
4. Move your paper/string around until you finally reach your ending point.



Topic 5: What are the key environmental issues facing the world today?

<u>World environmental issue</u>	<u>Description</u>	<u>Key fact/statistic</u>
Climate change 	The climate of the world is changing. Climate change is the name we give to a long-term shift in weather patterns and average temperatures.	According to UN scientists the average global temperature has increased by an estimated 0.8°C since 1880.
Deforestation 	This is the cutting down of forests.	17% of the Amazon rainforest has been destroyed so far.
Loss of biodiversity 	Human activity is leading to the extinction of species and habitats.	It is predicted that 70% of King penguins may disappear from Antarctica by 2100.
Desertification 	When productive land turns into non-productive desert.	This usually affects dry areas on edges of deserts, e.g. The Sahel, south of the Sahara Desert in Africa.
Loss of coral reefs. 	These vital ecosystems are being rapidly lost due to warming sea temperatures due to climate change and bad fishing practices.	It is predicted that 90% of the world's coral reefs will die by 2050.
Plastic Pollution 	The excess plastic that, due to its durability and the sheer amount produced, can now be found in the sea, on beaches, in lakes and rivers. This is posing a threat to wildlife and ecosystems.	Every year, 8 million tonnes of plastic end up in our planet's beautiful blue oceans.
Acid rain 	Rain consisting of water droplets that are acidic due to the polluted air. The air is polluted by sulphur and nitrogen released by cars and industrial processes.	Acid rain can cause paint to peel and wear away steel buildings, bridges and stone!
Rising sea levels 	Across the world sea levels are rising.	Over the past 15 years sea levels have risen on average by 3mm a year.
Air pollution 	The pollution of air by smoke and harmful gases, mainly oxides of carbon, sulphur, and nitrogen.	Many of the world's large cities today have bad air quality. Rome is going to ban diesel cars to combat the problem by 2024.
Water pollution 	The contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater), very often by human activities.	The Environment Agency sample 7000 river and canal sites in the UK 12 times a year to check the quality of the water.

Topic 6: Fieldwork

What is fieldwork?

- Fieldwork is the process of observing and collecting data about people, cultures, and natural environments.
- A key part of Geography!
- It is conducted outside, rather than in the classroom and involves exploring our local environment.



Risk assessment:

- It is important to spot potential risks while completing the fieldwork
- It is important to assess these risks and document steps to mitigate these.

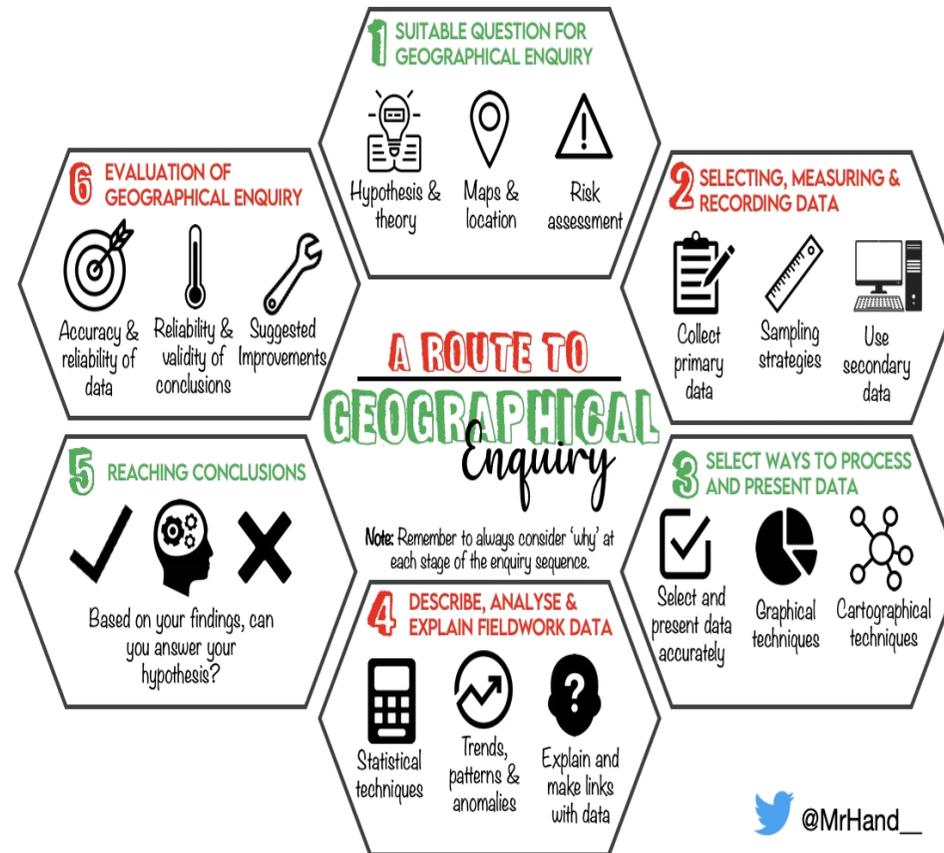


Risks include:

- × Slips, trips and falls
- × Moving vehicles
- × The weather

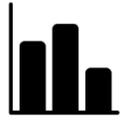
Managing risks:

- ✓ Wearing suitable footwear and clothing to keep you warm and dry
- ✓ Walk, not run
- ✓ Work in groups



Data collection methods:

- Environmental quality survey
- Interview
- Questionnaire



Data presentation methods:

- Bar chart
- Pie chart
- Line graph
- Stacked bar graph
- Choropleth map

Conclusion:

- The conclusion is where you answer your enquiry question.



Evaluation:

- This is a chance for you to think about how effective your results are and if you can confidently answer your enquiry question.
- Things to think about:
 How accurate is your data?
 Do you think your conclusion can be trusted if it is based on your data?
 How could the enquiry be improved if not?

